

ABSTRACT OF THE DISCLOSURE

Crosstalk between the adjacent pixels can be prevented by a structure in which an overflow barrier is provided at the deep portion of a substrate.

A partial P type region 150 is provided at the predetermined position of a lower layer region of the vertical transfer register 124 and a channel stop region 126. This P type region 150 is used to adjust potential in the lower layer region of the vertical transfer register 124 and the channel stop region 126 so that the potential may become smaller than that of the lower layer region of the photosensor 122 in a range from the minimum potential position of the vertical transfer register 124 to the overflow barrier 128. Accordingly, since the potential in the lower layer region of the vertical transfer register 124 and the channel stop region 126 at both sides of the lower layer region is low, electric charges photoelectrically-converted by the sensor region are blocked by this potential barrier and cannot be diffused easily. Thus, crosstalk between the adjacent pixels can be prevented.